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# A practical guide to using the World Federation for Medical Education (WFME) standards. WFME 2: educational program

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## **A Practical Guide to using the World Federation for Medical Education Standards.**

### **WFME 2: Educational Program**

#### **Abstract:**

#### **Background:**

Preparing a medical school for institutional review of all aspects of the school's programs requires an understanding of the international standards being used and adequate preparation and planning (1, 2). This series examines each of the nine standards developed by the World Federation for Medical Education (WFME) (3) with practical advice on their use in both self-review and independent accreditation processes.

#### **Conclusion:**

WFME standard 2 (*Educational Program*) examines in detail the program offered by the medical school, the instructional methods used to deliver the program, how the program is managed and how the program is linked with subsequent stages of the medical education continuum. Evidence of a strong nexus between the research activities of the medical school and the school's teaching mission is vital. Accrediting teams will examine carefully the school's resource allocation model and seek evidence of effective consultation by the school's central curriculum committee.

Keywords Undergraduate medical education \_ Quality assurance \_ World Federation for Medical Education

## **WFME 2: Educational Program**

Accrediting teams visiting a school as part of an institutional review will often seek evidence of:

- A pre-planned curriculum model which is educationally sound.
- A range of instructional methods used to deliver the program which utilise all three domains of learning (cognitive, psycho motor and affective).
- A strong nexus between the research activities of the medical school and the school's teaching mission.
- Biomedical sciences teaching which is clinically relevant and Clinical Sciences teaching which is likewise informed by the biomedical sciences.
- Adequacy of clinical contact in a variety of health care settings.
- Transparency of the school's resource allocation model.
- A central curriculum committee which is representative of all key stakeholders.

There are eight specific sub-criteria which need to be met to fulfil the requirements of WFME Standard 2. Each standard has two categories – a 'basic' and more testing 'quality' standard (1-3).

### 2.1. Curriculum Models and Instructional Methods

Apart from a description of the curriculum's overarching objectives (2), most accrediting teams will seek evidence of a pre-planned curriculum model and verification that a range of instructional methods are used to deliver the program. The model and instructional strategies employed should ensure that students are encouraged to take responsibility for their own learning becoming more self-directed as the course progresses (4). A commonly used curriculum model used by medical schools to help consolidate student

learning over time is the **spiral curriculum** (5-7). The notion that underpins the spiral curriculum is that key learning objectives are revisited regularly throughout the course thereby reinforcing learning. The use of a virtual learning environment, VLE (eg Moodle) which enables students to create and record their progress and experience over time supports such a model by encouraging students to revisit material taught earlier in the program.

Having established an appropriate model, it is important that the educational strategies chosen maintain congruence with the stated objectives of the curriculum and that no one instructional strategy predominate. For instance an over emphasis on didactic lectures does not promote active learning and progressive medical schools will seek to use more participatory and reflective learning opportunities in order to graduate doctors who have the skills and attitudes to become more self directed and who continually identify their own ongoing learning needs.

In medical education the delivery of course objectives can potentially utilise a wide variety of modes of delivery including the traditional lecture; case based learning, (where a clinical case is used to illustrate or contextualise learning); small group tutorials (both staff and student directed); practicals (e.g. anatomy dissection); computer assisted learning; bedside clinical teaching; grand rounds; shadowing; skills workshops; sitting in with consultants; theatre attendance; ward attendance and home visits etc. There are advantages and disadvantages to each educational method. It is important that the educational method chosen supports the curriculum objectives and is feasible. The use of multiple educational strategies is optimal.

Of all the three domains of learning (cognitive, psycho motor and affective) the cognitive domain is clearly important in medical education as recall and recognition of specific facts, procedures, patterns, and concepts are important aspects of the intellectual development of the medical graduate. This domain can be usefully further classified using Bloom's taxonomy (8, 9). However it is equally important that the other two domains of learning-the affective domain (which includes motivation and attitudes) and

the psychomotor domain (which includes motor-skill areas requiring practice and precision) are also embraced as part of the curriculum. Some medical schools group related curriculum objectives not only under individual curriculum theme headings but also under these three main domains of learning. The use of a curriculum database can assist with ‘mapping’ the curriculum to ensure congruence with stated objectives – ‘constructive alignment’ (10)- as well as monitoring the range of educational strategies employed and the weighting of each curriculum theme/domain across the years of the program.

## 2.2. Scientific Method

To achieve this standard the principles of scientific method and evidence-based medicine must be embedded throughout the curriculum. Most medical schools have a strong research focus thereby providing adequate opportunity to make research awareness, understanding and evaluation a strong component of the curriculum. The challenge however is to ensure a strong nexus between the research activities of the medical school and the school’s teaching mission. Engaging research faculty and adequately supporting them in their teaching roles presents a challenge as does ensuring that research methods are built into the educational objectives of all students in the program not just those who self select research electives or placements. A final challenge for most schools is ensuring a balance between opportunities for research experience in not only the biomedical sciences but also the social and behavioural sciences.

## 2.3. Basic Biomedical Sciences

To achieve this standard the medical school must ensure that graduates have sufficient understanding of the scientific underpinnings of medicine such that theses can be applied in the clinical setting. A particular aspect which most accrediting teams will explore is the extent to which the biomedical science teaching is clinically relevant. It is important that input from clinicians is sought in both the planning and delivery of the biomedical sciences teaching particularly in the early years where the biomedical sciences traditionally predominate. Likewise it is important that biomedical scientists participate in the planning and delivery of intermediate and later years of the program where

typically bedside clinical teaching predominates. The bridging role of pathologists and clinical pharmacologists between the basic sciences and clinical practice is another aspect accrediting teams are often keen to explore.

#### 2.4 Behavioural and Social Sciences and Medical Ethics

To achieve this standard the behavioural and social sciences and medical ethics should be adequately addressed in the curriculum. Included in this are important aspects of professionalism such as the ability to work collaboratively with colleagues; recognising one's own strengths and weaknesses, understanding the legal and ethical responsibilities of a medical practitioner and commitment to lifelong learning, self-appraisal and reflection. The complexities and dilemmas of clinical practice should also be explored in terms of different cultural and religious backgrounds. Increasingly the planned use of e-portfolios enables students to maintain a log of self and peer review, certification in professional skills such as script writing and informed consent; supervisor reports and reflective journals.

#### 2.5. Clinical Sciences and Skills

To achieve this standard the medical school must ensure adequate patient contact and the acquisition of sufficient clinical knowledge and skills to undertake the clinical responsibilities of an intern. A growing challenge for most medical schools is ensuring adequacy of clinical contact and time for structured reflection on clinical experience. A number of growing factors frustrate efforts to guarantee students acquire sufficient clinical experience including shorter patient lengths of stay in hospitals. Accrediting teams will often examine clinical rotations carefully to ensure schools protect time for clinical teaching in their affiliated hospitals. The number of cancelled tutorial sessions is an often used marker of the progress that is being made in this area. Another challenge is adequate exposure to community based practice. Residents in long-stay facilities and expectant mothers are often used to augment community based or General Practice rotations. In this way students can commence their exposure to the 'real' clinical setting earlier in the program. The use of skills centres can also enhance clinical teaching

providing a safe environment for students to practice procedures and skills including team based skills.

#### 2.6. Curriculum Structure, Composition and Duration

Most schools now employ a curriculum database to capture the curriculum content, sequencing and balance across themes. Such databases need to be accessible to staff and students and will often be requested by accrediting teams. The curriculum database provides clarity around aspects such as core and elective units of study, self-directed versus directed teaching and the timing and quantum of student assessment.

#### 2.7. Program Management

To achieve this standard each medical school must demonstrate that its central curriculum committee operates with sufficient authority to plan, implement and regularly revise the curriculum. Such a committee should have at its disposal sufficient resources to implement the curriculum and support innovation. Ideally such a committee should include student membership. Accrediting teams will often examine carefully the resource allocation model in place in the school and seek input from faculty and students as to the extent to which consultation takes place in designing, implementing, evaluating and resourcing the curriculum.

#### 2.8. Linkage with Medical Practice and the Health Care System

The basic standard will be deemed to have been met if the school can demonstrate sufficient liaison and links with subsequent stages of medical training. The challenge for many schools is demonstrating an appreciation of the needs of the many different health service environments in which its graduates will be working. The schools Alumni office is a useful resource in this regard and can assist by collating graduate destination surveys and administering graduate satisfaction surveys. Established links with post graduate training bodies can also help ensure the undergraduate curriculum remains current and responsive.



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